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Evaluation of plough layer thickness in grey forest soils using spectrophotometric and magnetic measurements

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Abstract

© 2006-2017 Asian Research Publishing Network (ARPN). This paper considers the possibility of objective and reliable location of the plough layer's lower boundary by determining color characteristics and magnetic susceptibility of the samples. It is shown that magnetic susceptibility profile can provide more reliable assessment of the plough layer thickness than color curves in CIELAB. The formal analysis using magnetic measurements eliminates subjective mistakes. Magnetic measurements can be a useful tool for the tillage induced erosion estimation while monitoring soil characteristics for the purposes of precision agriculture.

Keywords

Arable gray forest soil, CIELAB chromaticity coordinates, Lower boundary of the plough layer, Magnetic susceptibility, Tillage induced erosion

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